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ABSTRACT

This paper provides a synthesis of research and theory directly related to retention of adult students. In the first of five major sections, readers are provided with a brief discussion of the nature and significance of the dropout-retention problem. Section 2 reviews research findings relating to who drops out and why. Sociodemographic, psychological, external situational, program context, and teaching-learning factors are examined in this section. Theoretical perspectives on dropouts and retention are reviewed in the third section. Theoretical models reviewed include the congruence model, expectancy-valence model, reinforcement of attendance model, and cost-benefit model. Section 4 outlines a general theoretical model of the dropout-persistence process in adult education. The final section discusses general guidelines for promoting adult student retention. (CT)

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RETAINING ADULT STUDENTS

written by

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CE 029 785

The ERIC Clearinghouse on Adult, Career, and Vocational Education
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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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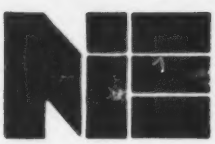

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FOREWORD

The Educational Resources Information Center Clearinghouse on Adult, Career, and Vocational Education (ERIC/ACVE) is one of sixteen clearinghouses in a nationwide information system that is funded by the National Institute of Education. One of the functions of the Clearinghouse is to interpret the literature that is entered into the ERIC data base. This paper should be of particular interest to adult education administrators, state agency staff, graduate students, and faculty in adult education.

The profession is indebted to Gordon G. Darkenwald for his scholarship in the preparation of this paper. Recognition is also due Donald W. Mocker, University of Missouri-Kansas City; Lloyd R. Longnion, East Cooperative Learning Center, New Braunfels, Texas; and Nina Selz, the National Center for Research in Vocational Education, for their critical review of the manuscript of the paper prior to its final revision and publication. Susan Imel, Assistant Director at the ERIC Clearinghouse on Adult, Career, and Vocational Education, coordinated the publication's development.

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EXECUTIVE SUMMARY

This paper provides a synthesis of research and theory directly related to retention of adult students. In the first of five major sections, readers are provided with a brief discussion of the nature and significance of the dropout-retention problem. Section two reviews research findings relating to who drops out and why. Sociodemographic, psychological, external situational, program context, and teaching-learning factors are examined in this section. Theoretical perspectives on dropouts and retention are reviewed in the third section. Theoretical models reviewed include the congruence model, expectency-valence model, reinforcement of attendance model, and cost-benefit model. Section four outlines a general theoretical model of the dropout-persistence process in adult education. The final section discusses general guidelines for promoting adult student retention.

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INTRODUCTION

Retaining adults in educational programs is a major challenge for adult educators. For the most part, however, the problem has been cast in limited terms. Instead of asking what can be done to prevent dropouts or enhance retention, almost all the research and writing on this topic has been restricted to examining who drops out and why. Although this literature offers clues to enhancing retention, it is incomplete, for it fails to address how adult educators can design and implement superior programs so that retention can be relegated to a minor concern.

The literature on effective program development and teaching is not within the scope of this paper, which instead attempts a synthesis of research and theory directly related to retention—in other words, to the dropout-persistence phenomenon. In discussing the practical implications of this body of research, an attempt will nevertheless be made to touch briefly on issues of effective program design and instruction. To set the context for these concluding observations concerning professional practice, it is necessary to begin by defining the nature and significance of the dropout-retention problem, to review and interpret the research findings and principal theoretical perspectives, and finally to impose some order on the fragmented knowledge base in this area by outlining a general theoretical model of the dropout-persistence process in adult education.

The Dropout Problem

Dropouts are persons who, having enrolled in an adult education course or other learning activity, and having completed at least one class or comparable activity, cease attendance before having satisfied their objectives for participation. "Dropout behavior" refers to the act of dropping out, and "dropout process" to the sequence of interrelated events that culminates in dropout behavior.

It is important to note that this definition of a dropout is more restrictive than that commonly employed by practitioners and researchers. Often adults will stop attending a course when their particular learning objectives have been achieved. One person, for example, may enroll in a photography course to learn darkroom techniques and another to learn how to use sophisticated cameras. Both, after acquiring the skills they want, may discontinue attendance. It seems illogical, however, to label them as dropouts. While there has been little or no research on what might be termed "positive dropouts," the phenomenon is apparently widespread. Because such learners achieve their goals, and the program successfully facilitates this satisfactory outcome, there is little reason to consider "positive dropout" a problem.

The negative dropout phenomenon, as defined earlier, is a major problem in adult education, however. It is a concern in secondary and postsecondary education as well, but in school and college settings it is generally less pervasive. There are two reasons why dropout tends to be particularly endemic to adult education. The first is that participation is usually voluntary rather than compulsory or semicompulsory. Adults typically are not required or pressured (e.g., by parents or peers) to participate and maintain participation, and, because there are few or no sanctions for not doing so, they can easily exercise their option to not participate or drop out. A

second, related reason has to do with the relatively lesser significance for adults of the student role and of the ties that connect the adult to the educational program or agency. For a young person, dropping out of high school or college involves a major role shift (usually to one or more adult roles such as worker or spouse) and a high risk of diminished social and occupational status in the future. For adults, the student role is secondary and dropping out of an educational program generally poses no threat to one's social status or occupational mobility. In short, the consequences of dropping out are generally more serious for preadults than for adults.

While participation in adult education is usually voluntary, it is not always so. In some circumstances adults are compelled or expected to participate in educational activities and to maintain participation. Non-compliance usually results in negative sanctions. Under these conditions "mental dropping out" may occur, but overt dropout behavior is infrequent. Examples of such circumstances include mandatory continuing education for health professionals and certain other occupational groups, and some forms of employer-sponsored education and training. In certain other circumstances, while participation may not be expected or required, dropping out is nevertheless discouraged by other factors. Many adults, for example, receive full or partial tuition reimbursement from employers for courses they wish to take at colleges or other educational institutions. If they enroll and then drop out they may not be reimbursed. Thus, there is a strong financial incentive in such circumstances to continue in attendance. Adults who make a commitment to part-time study for a degree or other important credential may also face the kinds of sanctions from family, friends, and peer groups that inhibit younger students from discontinuing their formal education.

Dropout from adult education is a serious problem because it entails costs to individual dropouts, to adult education agencies, and sometimes to an organization or to society. The term *cost* is used here in its broad sense as any kind of undesirable or negative state of affairs or outcome. For the individual, dropping out means failure to achieve an educational goal and often a contingent goal, such as a job promotion. Other possible costs to the individual include wasted time and energy and perhaps feelings of anger, frustration, or personal inadequacy. Further, when dropout behavior is due to dissatisfaction with the learning process (such as poor teaching or personal sense of failure), it may result in negative attitudes toward adult education and failure to participate in education in the future. This, too, can be viewed as a cost to the individual. When adults drop out from educational activities aimed at acquiring proficiencies in important roles such as worker, parent, spouse, or community leader, the cost of failure to acquire these proficiencies can extend beyond the individual to the family, community, an organization, or society in general. For the adult education agency, the costs of failure to retain students can also be high. Every dropout from a class or program represents wasted resources that could have been used to good effect. Tuition and fee income and sometimes external funding can be jeopardized. When high dropout rates are due to poor programming or teaching, the consequences can be extremely grave for the agency and its personnel. Dissatisfied dropouts usually have ties to some group or community that the agency defines as part of its clientele. Poor publicity created by dissatisfied dropouts can result in diminished support from clientele groups, lower enrollments, and a tarnished reputation. Finally, teachers and administrators are often evaluated (and evaluate themselves) partly on the basis of dropout and attendance rates. Thus, in the enrollment-driven economy that characterizes much of adult education, a high dropout rate can threaten not only individual jobs and feelings of efficacy but an agency's very existence as well.

WHO DROPS OUT AND WHY: THE RESEARCH FINDINGS

In the only comprehensive review of adult education dropout research, Verner and Davis (1964) identified thirty studies that had been conducted over a thirty-five-year span. Nearly all were descriptive and most used small samples and crude methods for collecting and analyzing data. Two basic designs were employed: comparative and reactional. In the former case, dropouts are compared to persisters to determine in what respects the two groups differ. In the latter, dropouts are questioned concerning their reactions to the course or program and their reasons for dropping out. The typical study examined variables in two or more of the following categories: sociodemographic (e.g., age, sex, social class); psychological (e.g., anxiety, academic ability); situational (e.g., child care problems, illness); and programmatic (e.g., length of course, frequency of class meetings). For the most part, the findings of these studies were contradictory or inconclusive. Although Verner and Davis (1964, p. 172) noted some trends, they concluded that "in no case. . .is the research sufficiently acute to clarify the nature and extent of the relationship."

Since 1964 the quality of dropout research has improved and many more studies have been conducted. But there are still deficiencies in the knowledge base. A major problem is that few studies have been guided by any coherent conceptual scheme or theory. Thus the research tends to lack focus. In addition, the cumulative development and refinement of knowledge that theory building fosters has been retarded. A second problem is that most research still employs small, unrepresentative samples, thereby limiting the generalizability of findings. Another shortcoming is that relatively few studies have employed rigorous statistical controls and, therefore, misleading findings are sometimes reported. For example, strong negative correlations (associations) between persistence and low income, minority racial status, and low occupational status are mainly spurious. The reason is that adults who have these characteristics also tend to be undereducated. When educational attainment (schooling) is included with these other variables in multivariate statistical analyses, the effects of the other variables (such as income) virtually disappear (Anderson and Darkenwald 1979). Finally, research on dropout behavior has failed to address the topic from the perspective of the adult student by taking into account the student's definition of the situation and the processes leading to the decision to continue or discontinue participation. Dropout behavior results from complex, interacting factors, yet the research designs commonly used to study the phenomenon are ill suited to capturing this complexity.

The following pages summarize the research findings on who drops out and why. The review is organized by the types of variables that have been studied, beginning with the general sociodemographic characteristics that distinguish dropouts from persisters and concluding with specific factors that arise from or impinge on the educational process itself. The practical implications of the findings, where such implications exist, are briefly noted.

Sociodemographic Factors

In a recent, selective review of adult education dropout research, Irish (1978) concluded, as did Verner and Davis (1964), that the findings concerning the relationship of sociodemographic

variables to dropout behavior were inconclusive. However, a study published a year later (Anderson and Darkenwald 1979) employing a national sample of several thousand adult education participants, seems to have resolved most of the confusion. Not only was the sample large and representative, but the researchers also controlled for spurious or misleading findings through the use of powerful multivariate statistics. The study's findings will therefore be given particular emphasis, as will Irish's excellent revie[illegible].

Most sociodemographic variables were found by Anderson and Darkenwald, as well as by others (Knox and Videbeck 1963, Boshier 1973), to be at best only weakly related to dropout behavior. Anderson and Darkenwald concluded that dropouts were slightly more likely to be black and slightly less likely to be employed full time. Sex, occupational status, place of residence (rural, urban, suburban), and most other demographic and social status variables were unrelated to persistence in organized adult education. Only two sociodemographic variables seem to be of any consequence: age and educational attainment. The Anderson and Darkenwald (1979) research confirmed findings reported earlier (e.g., Boshier 1973, Davis 1961, Dirks 1955, Preston 1958) that "older" adults and adults with more formal schooling are less likely to drop out than others. The former finding is less easily explained than the latter because, among other things, the positive relationship between age and persistence is reversed when the analysis is limited to participants 60 and older (Anderson and Darkenwald 1979). Thus, it appears that "older' is best taken to mean mature rather than elderly. While the age effects are difficult to interpret, it would be quite surprising if amount of formal education bore no relationship to dropout behavior. Schooling develops not only skills and abilities important for learning, but also positive attitudes toward learning and education that carry over into adult life (Hyman, Wright, and Reed 1975).

Although age and educational attainment are statistically significant predictors of dropout behavior, their practical significance is slight. At best, these findings might sensitize teachers and administrators to the propensity for younger and less educated adults to be "at risk" of dropping out. This propensity is definitely more pronounced in adult basic education and high school completion programs than in other settings (Anderson and Darkenwald 1979).

Psychological Factors

As used here, the term psychological factor refers to relatively enduring individual characteristics such as intelligence and personality. Situation-specific or transient individual attributes, such as reasons for participating in adult education, will be discussed later.

Little, if any, research has examined the relationship of intelligence to dropout behavior, although a number of studies have used related measures of general ability or academic aptitude. Irish (1978), after reviewing nine such studies, concluded that there was little evidence that dropouts and persisters differ on measures of ability. She noted, however, as have other researchers, a study by Zahn (1964) which suggests that ability may interact with other factors to affect dropout behavior. Zahn found that low-ability adults were more likely than those of high ability to drop out from credit extension courses, but less likely to drop out from similar noncredit courses. She concluded (Zahn 1964, p. 40) that "something occurs in the credit classes to retain high-ability students and in noncredit classes to retain low-ability students." What occurs, she suggested, may relate to different effects on low- and high-ability students of grades and examinations in credit classs and to a tendency of professors in noncredit classes to lower standards because of the noncredit nature of the course and/or to retain low-ability students. It seems, then, that where ability is closely linked to performance or sucess in an adult education

course or program it is also likely to be linked to persistence. Dropout research on college students supports this common-sense proposition (Tinto 1975).

Few researchers have examined the relationship of personality or psychological adjustment variables to persistence in adult education. One who did (Killian 1969) found that dropouts from a high school completion program scored lower than persisters on the "Personal Adjustment" and "Social Adjustment" scales of the California Test of Personality. Wilson (1973), studying a similar population, also found differences between dropouts and persisters using the Adjective Check List. Perhaps the most interesting findings are those reported by Scharres (1966), who, like Killian and Wilson, studied high school completion students. Using the Edwards Personal Preference Scale, Scharles found that male persisters had a higher need for affiliation than male dropouts, but a lower need for autonomy. Female persisters had a higher ned for abasement than did female dropouts, but a lower need for achievement. For this population, then, dropouts were more self-directed and achievement-oriented than persisters.

The few scattered studies relating dropout behavior to psychological variables have yielded little in the way of firm generalizations or conclusions. They suggest, however, that cognitive abilities and personality traits may interact with other variables (such as the nature of the learning experience) to affect learner persistence. Psychological measures, especially of ability, would seem to be important to include in future dropout research to guage their effects in conjunction with other kinds of variables. One practical, though obvious, implication of the research in this area is that low-ability students may be at risk of dropping out where ability is closely linked to success or performance in learning.

External Situational Factors

Situational variables are those that characterize or affect an individual's social-environmental situation at a given point in time. They are external in the sense that they are not directly related to individual characteristics or to the teaching-learning process. Examples include illness, moving away, overtime work, transportation difficulties, bad weather, and lack of time due to family obligations. Reactional studies—those that query dropouts concerning their reasons for dropping out—generally conclude that these factors are of great significance. In a typical reactional study of 306 dropouts from an adult basic education program (ABE) (Moss and Richardson 1967), it was reported that the two major reasons for discontinuing attendance were change of residence and interference with work activities. There is reason to believe, however, that respondents in such studies often give misleading answers. As Boshier noted (1973, p. 261) "previous dropout follow-up studies. . .have shown that dropouts are inclined to dwell on one incident, the last of a long series of dissatisfactions, and are defensive in telling the truth. . . .A participant's self-concept can also more easily accommodate a non-course reason for dropout than a course-related reason." Verner and Davis (1964, p. 172) noted the apparent paradox that "those who discontinue will criticize the school more often than blame it for their quitting." Irish (1978), in reviewing several reactional studies, reached a similar conclusion. In one of those studies (Alam and Wright 1969), 60 percent of the night school dropouts who were interviewed gave reasons for dropping out that were unrelated to the school itself; however, only one-fourth of the total sample of persisters and dropouts believed that others dropped out for nonschool reasons. The point is not that situational factors are unrelated to dropout behavior—they definitely are. In most cases, however, bad weather, child care problems, illness in the family, and other external situational variables are best seen as contributing to dropout rather than directly "causing" it. In technical terms, these situational factors interact with other factors, such as poor teaching, to promote attrition. Put less technically, one might be willing for various reasons to tolerate a boring teacher, but to do so with two sick children and a bad headcold may

simply be asking too much. There is, nonetheless, evidence that work schedules, child care, transportation problems, and other situational factors have a particularly adverse impact on economically and educationally disadvantaged adults enrolled in ABE and high school completion programs (Mezirow, Darkenwald, and Knox 1975). As Irish (1978, p. 29) observed, "one could speculate that for these students, a lack of scarce resources may limit their options and make their participation in educational activities more dependent on these outside factors."

Situational variables are of limited practical importance because, for the most part, they are beyond the control of teachers and administrators. Illness, job changes, and the like are pretty much random or unpredictable events.

Program Context Factors

Unlike the situational factors just discussed, program context factors can be controlled by adult educators and thus are potentially important for enhancing retention in adult education programs. Context variables are administrative or organizational properties of educational programs, such as frequency and length of class meetings, class size, provision of support services, and the like. It seems useful to distinguish these variables from the more immediate factors that arise from or impinge on the teaching-learning process itself.

The common-sense belief that number of course sessions is directly related to dropout rates is supported by research. Anderson and Darkenwald (1979) found a significant negative association between number of weeks scheduled and persistence. This was true even with twenty other variables statistically controlled. Similarly, a statewide study in Wisconsin found that dropout rates were lower in courses meeting for fewer than twenty sessions (Wisconsin State Board 1969). Frequency of meetings (in contrast to total number) has also been shown to affect dropout rates. Less frequent meetings (e.g., once a week or biweekly) are associated with higher persistence rates (Verner and Davis 1964). The findings for class size are mixed, although Boshier (1973, p. 266), in a study of 2,436 New Zealand participants in noncredit courses, reported lower dropout rates in classes with nine or fewer students. Other potentially important programmatic variables, such as the comfort or "adultness" of the physical environment, and availability of support services, such as counseling and child care, have been neglected by researchers.

These findings, although sketchy, have at least some practical implications for increasing retention in adult education programs. Time is a scarce and valuable resource for most adults; like fees or tuition it must be considered a cost of participation. Time per session or even total course time may be less important than how time is scheduled. Whether a class meeting is an hour or three hours is probably of less importance for most adults than the disruption of daily routine caused by frequent meetings. Thus, less frequent meetings, even if longer in duration, would probably facilitate retention in most adult education programs. Another alternative is to schedule large blocks of time—a day or two or a weekend—on the assumption that one big disruption is more manageable for many adults than a drawn-out series of little ones.

Teaching-Learning Factors

Teaching-learning factors are those variables that arise from or directly and immediately influence the teaching-learning process. They include learner and teacher expectations, motivations, and overt behaviors; classroom climate and interaction patterns; and numerous other variables that characterize the teaching-learning transaction. The research suggests that

these factors are far more important than others in accounting for dropout from adult education (Anderson and Darkenwald 1979, Boshier 1973, Irish 1978, Verner and Davis 1964). Variables connected with the teaching-learning process are of considerable practical importance because many of them are subject to control by adult educators concerned with enhancing student retention. Research related to student goals and expectations will be considered first, followed by studies that emphasize teacher behavior in relation to dropout.

The extent to which a course or other organized learning activity is relevant to, or congruent with, student needs and objectives is probably the major determinant of persistence. Students are more likely to persist when they have clear or concrete goals, when their goals or expectations are capable of being satisfied by a particular educational experience, and when they perceive the learning experience to be instrumental in helping them satisfy their needs or objectives (Irish, 1978). Studies of attrition from high school completion and human resource training programs illustrate these assertions. Londoner (1972, p. 185) found that persisters in a high school completion program tended to rate "obtain a high school diploma" as an important goal, while dropouts tended to assign more importance to less immediate and realistic goals, such as "increase one's earning capacity." Similarly, Lewis et al. (1971) found that participants in a human resource training program initially expected that the training would help them obtain satisfying employment. When it became clear that the training would not automatically lead to good jobs, they dropped out. The lesson seems to be that when learners expect too much or "something else," or when the educational program delivers too little or "something else," the likelihood of dissatisfaction and therefore dropout is high.

Oddly, few studies have examined the relationship between teacher behavior in the classroom and student dropout. The studies that have done so are suggestive. An investigation that correlated ten teacher behaviors with dropout from civil defense education courses (Davis 1966) uncovered only one significant finding: dropouts more often than persisters reported that teachers did not talk to them as equals. Lam and Wong (1974) conducted a study of attendance rates in extension classes taught by the same instructor at the Chinese University of Hong Kong. Interestingly, student perceptions of this teacher's behavior varied markedly. Students who perceived him as "approachable" did, however, attend class more regularly, as did students who reported that the course's content met with their expectations; that they were able to understand or "follow the course"; that they had opportunities to clarify their doubts or take part in discussion; and that they more often "chatted casually with the instructor" (Lam and Wong 1974, pp. 133-136).

Whether or not a teacher has professional training (Verner and Davis 1964) or employs certain teaching methods, such as lecturing (Anderson and Darkenwald 1979) seems to have little impact on dropout rates. However, the relevance or significance for the learners of what is taught seems to be closely linked to attrition. A study based on a national sample of ABE teachers in large cities (Darkenwald 1975) found that black teachers of classes composed primarily of black adults reported lower dropout rates than did white teachers of such classes. Further investigation revealed that black teachers tended to place greater emphasis than whites on the "nontraditional" subject areas of consumer and health education, racial heritage, and coping skills (e.g., applying for a job, obtaining legal assistance). When the teacher's race was controlled by amount of "nontraditional subject emphasis" it became clear that most of the variation in dropout rates could be accounted for by subject matter emphasis. Thus teachers, whether black or white, who were sensitive and responsive to the needs of black, inner-city adults were more likely than other teachers to retain these adults in their classes. Other studies (e.g., Adams 1974) have found large discrepancies between what adult students report as their needs or goals and what their teachers perceive as the students' needs or goals. This kind of incongruence is almost certain to result in dissatisfaction and dropout.

Satisfaction

As the preceding overview of the research suggests, there are many reasons why adults may be dissatisfied with a course or other organized learning activity. It may not be meeting their needs, they may experience difficulties with learning, they may find fault with the teacher, or classes may be scheduled at an inconvenient time or meet too frequently. The specific reasons and combinations of reasons are almost limitless. While dissatisfaction in most cases results from more than one factor, dropouts are much more critical than persisters of the quality and effectiveness of teachers, courses, and programs (Boshier 1973, Irish 1978, Verner and Davis 1964). Satisfaction, therefore, seems to be mainly determined by factors subject to the control of adult educators. Not surprisingly, course satisfaction is the best single predictor of dropout from adult education. Like other single predictors, however, it explains only a small portion of whatever it is that determines dropout behavior (Anderson and Darkenwald 1979, p. 27). Thus, while the best predictor, it is not a very potent one.

THEORETICAL PERSPECTIVES ON DROPOUT AND RETENTION

While the findings reviewed previously are of some value to researchers and practitioners, they do not provide an integrated perspective on the dropout-retention problem. Adult educators cannot adequately understand or control dropout behavior without coherent theoretical conceptualizations or models.

In the following pages the principal theoretical perspectives are reviewed and critiqued. Hopefully, by stepping back from the welter of fragmentary research findings and focusing on general concepts and models the broad and significant outlines of the dropout process will become clearer. Boshier's (1973) congruence model will be discussed first, followed by Rubenson and Hoghielm's (1978) expectancy-valence theory, Irish's (1978) reinforcement of attendance model, and the cost-benefit approach described by Tinto (1975).

The Congruence Model

Boshier's congruence model of adult education participation and dropout purports to take into account the interaction between internal psychological and external environmental variables (1973, p. 256). The rationale underpinning this model is extremely complex; therefore only its basic outlines will be presented. The notion of congruence is used by Boshier in two somewhat different ways. Intraself congruence is basically a function of psychological adjustment. "Growth-motivated" or self-actualizing adults manifest intraself congruence, while "deficiency motivated," other-directed, and neurotic adults are characterized by intraself incongruence. This latter condition is purportedly associated with lower social class status. Boshier hypothesizes, but presents no evidence to support the proposition, that intra-self incongruence leads to self-other incongruence (specifically incongruence between self and other students and self and teacher) and that self-other incongruence, in combination with social, psychological, and subenvironmental (e.g., classroom) variables leads to dropout. In short "the model asserts that 'congruence' both within the participant and between the participant and his educational environment determines. . .dropout/ persistence" (Boshier 1973, p. 256). While failing to establish a causal link between intraself incongruence and self-other incongruence, Boshier has presented convincing evidence that measures of self-ideal-self, self-teacher, and self-other student incongruence correlate fairly strongly with dropout behavior. These measures were calculated on the basis of semantic differential scales that required respondents to rate the extent to which they and others were, for example, stimulating, warm, organized, and sociable.

A basic problem with Boshier's model (or at least his data) is that incongruence, as he himself suggests (p. 269), may merely measure dissatisfaction with self, teacher, and other students rather than "psychological distance" between the participants' self-concepts and their concepts of teacher, other students, and ideal self. Another problem is that while the model asserts that congruence interacts with other, external variables to determine dropout, these variables are not specified and only the individual psychological variable of congruence has been tested. Nonetheless, Boshier's concept of congruence is an important contribution to our understanding of dropout behavior.

Expectancy-Valence Model

The Swedish researchers Rubenson and Hoghielm (1978) adapted expectancy-valence theory to explain and predict dropout from adult education. The theory assumes that a person's choice of activities results from both the "value he attaches to the result of his actions and of his expectations of being able to carry out the action in question" (Borgstrom 1980, p. 118). The basic model can be depicted as follows:

Valence: extent to which individual regards a course as a fruitful means of satisfying perceived needs

Expectancy: extent to which individual believes self capable of completing or coping with course

Force
(The strength of this force determines if individual completes or or drops course.)

Put simply, expectancy-valence theory asserts that learners will persist if they perceive a specific course or learning activity as satisfying an important need (positive valence) and if they expect to be able to complete or cope with the course or learning activity in question (positive expectancy). If expectancy and valence are both highly positive, one would predict persistence. If both are low, or one has a value of zero, then dropout would be predicted. While highly abstract, this model at least recognizes the importance of barriers (whether internal or external) in accounting for dropout. A course may be highly valued, but if one encounters difficulties with learning or regular attendance (examples of expectancy factors), then persistence becomes problematical. The model is deficient, however, in that it fails to specify the factors that influence valence and expectancy. The Swedish researchers have yet to present data to support the model's validity.

Reinforcement of Attendance Model

Irish (1978) employed reinforcement theory and the functional analysis of behavior in developing an instrument to predict dropout from evening classes in business education subjects. A great deal of effort was required to identify potential reinforcers of attendance, their importance, and their actual or estimated frequency of occurrence. Three sets of reinforcers were identified: those that may take place in the classroom (ten items); those that may take place while the student is attending the class but outside the classroom (fifteen items); and those that may take place on the job as the result of skills acquired in the class (nine items). Total reinforcement was determined for each subject by multiplying importance and frequency of occurrence ratings for each of the 34 reinforcers and summing the results. Those students who experienced greater positive reinforcement did, in fact, tend to persist. Irish was able to develop a prediction equation that correctly identified subject status (persister or dropout) in 72.3 percent of the cases.

In addition to conceptual simplicity, Irish's model has the virtue of including three major classes of variables: reinforcers that occur in the classroom, outside the classroom concurrently

with attendance, and anticipated reinforcers such as goals, expectations, or benefits. Significantly, the in-class reinforcers seemed to be better predictors of dropout and persistence than the out-of-class or anticipated reinforcers. The model's simplicity, however, is also its major failing. Reinforcement theory may be useful in predicting behavior, but it fails to provide satisfying explanations of the process or dynamics that lead to overt behavior. In fact, Irish's model might be considered a variant of general cost-benefit theory, as to some extent might the other models discussed above.

Cost-Benefit Model

In presenting his own model of college dropout, Tinto acknowledged its close connection to cost-benefit theory. His lucid description of cost-benefit analysis applied to dropout behavior is quoted below in its entirety:

> As specified in the theory of cost-benefit analysis, individual decisions with regard to any form of activity can be analyzed in terms of the perceived costs and benefits of that activity relative to those perceived in alternative activities. Given the notion that costs and benefits are of both direct and indirect types and include social as well as economic factors, this theory states that individuals will direct their energies toward that activity that is perceived to maximize the ratio of benefits to costs over a given time perspective. With regard to staying in college, this perspective argues that a person will tend to withdraw from college when he perceives that an alternative form of investment of time, energies, and resources will yield greater benefits, relative to costs, over time than will staying in college. (1975, p. 97)

It is undeniable that individuals' calculations of costs versus benefits influence many aspects of behavior, including dropout from college or adult education. But this does not say too much unless one can specify the actual costs and benefits and why and how they affect specific behaviors, such as dropping out of adult education. All the models discussed above have identified some cost-benefit concepts relevant to dropout behavior: congruence or fit between the learner and the educational environment; expectancy and valence; and reinforcement, both positive and negative, of class attendance. But these models are incomplete representations of the complex and diverse forces (or costs and benefits) that determine dropout behavior in adult education.

TOWARD A SYNTHESIS OF THEORY AND RESEARCH FINDINGS

It is not possible here to describe in detail a more complete model of persistence and dropout in adult education. What can be done is to build on the research findings and theoretical insights reviewed earlier to sketch a more encompassing conception of the important variables and their interrelationships. Complete justifications or explanations will not be provided for every assertion made. For the most part, the evidence or logic for them has already been discussed.

It is necessary first to eliminate classes of variables that have little predictive or explanatory power. Sociodemographic characteristics of students and teachers meet this criterion. While age, educational attainment, occupational status, and other social status variables are relevant to explaining participation in adult education (Darkenwald 1980; Darkenwald and Merriam, in press), they are not as useful in explaining dropout. Similarly, such teacher characteristics as training, age, sex, and social class can also be eliminated. Psychological attributes of both learners and teachers having to do with personality and adjustment likewise exhibit limited discriminatory power and can probably be ignored.

The important variables seem to be these:

(1) Individual factors of motivation, ability, and self-confidence;

(2) Social-environmental forces that can facilitate or inhibit persistence, namely—

  (a) impersonal or situational reinforcers (both positive and negative) such as illness, class schedule, and availability of transportation, and

  (b) social-interpersonal reinforcers, such as encouragement from spouse, children, and peer and reference groups;

(3) Individual expectations of the learning experience, particularly in regard to outcomes or benefits, ability to cope successfully with the learning process, teacher behavior, such as appropriateness, competence, and supportiveness, and the behavior of other students;

(4) The characteristics of the learning experience itself, particularly in relation to initial expectations concerning teacher and other-student behavior, the effectiveness and enjoyability of the teaching-learning process, and the extent to which desired outcomes are facilitated;

(5) Ongoing, individual evaluation of the learning experience, again based largely on initial expectations and the extent to which reality is perceived as congruent or incongruent with these expectations;

(6) Satisfaction with the learning experience, which is determined principally by how individuals, at a given point in time, evaluate it in relation to their expectations.

The classes of variables just enumerated imply certain interrelationships among them as well as a crude causal sequence based primarily on the order of events over time. It is appropriate to conclude this discussion by making these interrelationships explicit. In the interest of clarity and succinctness, the dynamic or process aspects of the model will be discussed only in their broadest outlines.

Since initial individual characteristics precede in time all other variables, the model implies that initial motivation, self-confidence as a learner, and relevant abilities directly affect both expectations of the learning experience and the actual experience itself.

The actual learning experience is also affected by the individual's external environment. Specifically, impersonal situational reinforcers, such as work schedule and availability of transportation, can affect attendance and performance and probably strength of motivation and satisfaction as well. Social-interpersonal reinforcers, such as encouragment or discouragement from family or peer groups, operate in a similar fashion to affect the learning experience, individual motivation, and satisfaction.

The actual learning experience, or, more accurately, how it is perceived, in turn affects the individual's continuing evaluation of it. To the extent that the learning experience is evaluated as congruent with initial expectations of it (or perhaps with revised expectations), satisfaction is likely to be high. Conversely, incongruence between initial expectations and the individual's perception of the learning experience will probably contribute to dissatisfaction. Finally, satisfaction or dissatisfaction, as it develops cumulatively over time, leads either to persistence or dropout.

This model, of course, is general. Whether it is a more useful representation of reality than earlier conceptualizations is debatable. Despite many ambiguities, it does at least include several classes of relevant variables, highlight the interaction of individual and social-environmental factors, address the process or dynamic aspects of persistence and dropout, and suggest possible causal links that can be tested in future research. If it helps the reader gain a better understanding of dropout and retention in adult education, it will have served its purpose.

IMPLICATIONS FOR RETAINING ADULT STUDENTS

Strangely, it appears that there has been no experimentation focused on *retaining* adults in educational programs. It is therefore necessary to speculate, on the basis of dropout research, what steps might be taken, or variables manipulated, to enhance retention. Since dropout research suggests that the most important variables in accounting for dropout from adult education are those over which the teacher has the most control, i.e., teaching-learning variables, then it follows that retention can be enhanced through careful attention to adult education principles in program planning. Some practical implications in this regard have been noted in the foregoing review of research and theory. These implications will be expanded below in general guidelines for promoting student retention derived from the dropout-persistence model just described and from a number of additional sources. The guidelines suggest that to retain adults, learning experiences should be designed that:

- Address real needs
- Create a supportive learning environment
- Minimize environmental problems and barriers
- Communicate course content and expectations accurately
- Follow-up potential dropouts
- Evaluate to identify and correct potential problems contributing to dropout rates

Addressing Real Needs

Above all else, adults expect that a course, workshop, or other educational activity will benefit them in specific ways: they expect, in short, that it will meet their needs. As Beder (1980) has pointed out, needs assessment, while often difficult, is nonetheless absolutely necessary in adult education. Programs that do not assess and address adult needs and interests almost always have high dropout rates. A notorious and documented example is Sweden's municipal adult education program, called Komvux, which is essentially a secondary school program for adults. Komvux is extremely formal and rigid, following exactly the prescribed curriculum, complete with detailed course syllabi, that is mandated in Sweden for adolescent students. Even the teachers and facilities are the same. However, while "Komvux courses offer formal qualifications and are geared to the same curricula as youth education . . .the participants. . .are seldom bent on acquiring formal educational qualifications. The majority are studying in order to improve their general education. Other powerful motives are those of satisfying one's educational interests and meeting more people" (Borgstrom 1980). Not surprisingly, most Komvux students are dissatisfied with what they are getting. The average dropout rate per term for the various courses is 69 percent (Borgstrom 1980, p. 116).

Komvux may be an extreme example, but it serves to illustrate the all-important truth that adults need not and usually will not tolerate educational programs that fail to meet their needs. In other words, there must be congruence between what the program provides and what adult students need and want. For a fuller discussion of this point and additional examples, see Beder's (1980) analysis of marketing principles applied to adult education program development.

Creating a Supportive Learning Environment

Most adults expect a supportive and flexible learning environment in which they are treated by the teacher as equals and social relations are comfortable rather than tense or competitive. Undereducated adults, and those who return to the classroom after a long hiatus, often lack self-confidence and may even experience considerable anxiety. Teachers should be sensitive to these fears and doubts and make every effort, particularly at the first meeting, to allay them. Rusty study skills can be a problem too. Teachers should not assume that all adults can use the library effectively or fully grasp the meaning of academic terminology such as *bibliography* or *term paper*. It is also important for teachers to be aware of the value (i.e., scarcity) of time for adults; it is a resource not to be expended unless necessary. Finally, teachers should adapt instruction as much as possible to accommodate students' particular needs, goals, and abilities; let students know what is expected of them and what they can expect in turn; and provide frequent feedback on student performance in a sensitive, constructive manner. These observations may seem like common sense, but in practice they are widely ignored or violated. Many teachers of adults are not professional educators, and those who are seldom have training in adult education. Adult education administrators must give higher priority to staff development if they wish to improve teacher performance and thereby student retention.

Minimizing Problems and Barriers

Program developers and administrators can do a great deal to counteract negative environmental reinforcers. Accessibility, flexibility, convenience, efficiency, and sensitivity are particularly germane in this regard. The role of student is a secondary one for adults. If it interferes too much with other, primary roles and responsibilities, most adults will feel compelled to drop out. The importance of minimizing disruption of daily routine has already been noted. Accessible learning sites, convenient scheduling, and even the provision of child care or transportation services may be necessary to enhance student retention. Important support services, such as counseling, should be available on a convenient basis. While lack of time, inconvenience, and other such frustrations are not the principal causes of dropout, there is no question that such negative reinforcers contribute to the problem.

Communicating Accurately

A simple and direct way to reduce incongruence between expectations and program reality—and therefore to reduce dropout—is to communicate clearly and candidly what the reality is. In part, this means adhering to the maxim "don't promise more than you can deliver." It also means letting students know, both in promotional materials and in the classroom, what is expected or required of them to profit from the course or program in question. There is convincing evidence that most adult students are unaware of the commitments required of them and the problems they are likely to encounter in attending classes part-time (Smith 1979). Related to this issue is the practice of enrolling unprepared students in courses or programs where specific

qualifications or abilities are necessary for success. Obviously, as the experience of the British Open University testified (Kennedy and Powell 1976), such students are more likely than others to drop out. If the adult education agency is unable or unwilling to remediate severe deficiencies, or to exclude unprepared students, it should inform such students that they may encounter problems and give the reasons for such an assessment.

Following-Up

As a last resort, adult educators can and often do identify potential dropouts and try to encourage their continued attendance (Mezirow, Darkenwald, and Knox 1975). Irregular attendance, especially absence from two or more consecutive classes, is symptomatic of problems that can often be resolved by sensitive teachers or counselors. Occasionally, an absent student will have a friend in class who can serve as a channel of communication, but in many instances the teacher or a counselor may have to contact the potential dropout directly.

Evaluating

It need hardly be said that if a class or program is experiencing higher-than-expected dropout rates, evaluation is necessary to identify and correct the problem. Often, simply observing and conferring with the teacher is sufficient to resolve the difficulty. In other cases, where the problem is widespread or chronic, a more formal and comprehensive evaluation effort may be needed. It is important to develop a system for recording and monitoring attendance and dropout data so that problems can be identified and dealt with as quickly as possible.

It is tempting to conclude with the injunction: "Assess needs accurately and deliver a good program, and retention will take care of itself." It is almost, but not quite, as simple—and as complicated—as that.

CONCLUSION

While the body of research and theory reviewed here can offer some guidance to educators concerned with enhancing retention of adult students, it is insufficiently comprehensive to be of much help in situations where the dropout problem is severe. As implied above, retention is principally determined by how well adult educators assess needs and design, implement, and evaluate learning experiences for adults. There are, in other words, no panaceas nor substitutes for professional competence. To address fully the topic of this paper, one would have to set forth the basic principles of adult learning and of needs assessment, program design, teaching, and administration in adult education.

Readers who wish to gain a better understanding of these topics should consult the relevant professional literature. Short, practical summaries of this literature can be found in the Jossey-Bass New Directions for Continuing Education series. The volumes particularly relevant to retaining adults in educational programs are as follows:

Alan B. Knox, ed. *Assessing the Impact of Continuing Education.* New Directions for Continuing Education No. 3. San Francisco: Jossey-Bass, 1979.

Alan B. Knox. ed. *Teaching Adults Effectively.* New Directions for Continuing Education No. 6. San Francisco: Jossey-Bass, 1980.

Floyd Pennington, Ed. *Assessing Educational Needs of Adults.* New Directions for Continuing Education No. 7. San Francisco: Jossey-Bass, 1980.

Gordon Darkenwald and Gordon Larson, eds. *Reaching Hard-to-Reach Adults.* New Directions for Continuing Education No. 8. San Francisco: Jossey-Bass, 1980.

REFERENCES

Adams, D. *In-Service Education for Teachers of Disadvantaged Adults.* Washington, DC: ERIC Clearinghouse on Teacher Education, 1974. (ERIC Document Reproduction Service No. ED 097 317).

Alam, M., and Wright, E. "A Study of Night School Dropouts: A Schedule 10 Project." In *Non-Degree Research in Adult Education in Canada 1968.* Toronto: Canadian Association for Adult Education, and the Ontario Institute for Studies in Education, 1969. (ERIC Document Reproduction Service No. ED 034 146).

Anderson, R., and Darkenwald, G. *Participation and Persistence in American Adult Education.* New York: The College Board, 1979. (ERIC Document Reproduction Service No. ED 181 186).

Beder, H. "Reaching the Hard-to-Reach Adult through Effective Marketing." In *Reaching Hard-to-Reach Adults,* edited by G. Darkenwald and G. Larson. San Francisco: Jossey-Bass, 1980. (ERIC No. EJ 235 868).

Borgstrom, L. "Drop-Out in Municipal Adult Schools in the Context of Allocation Policy." In *Adult Education for Social Change,* edited by R. Hoghielm and K. Rubenson. Stockholm. Stockholm Institute of Education, 1980.

Boshier, R. "Educational Participation and Dropout: A Theoretical Model." *Adult Education* 23 (Summer 1973): 255-282. (ERIC No. EJ 082 410).

Darkenwald, G., and Merriam, S. *Adult Education: Foundations of Practice.* New York: Harper and Row, in press.

Darkenwald, G. "Continuing Education and the Hard-to-Reach Adult." In *Reaching Hard-to-Reach Adults,* edited by G. Darkenwald and G. Larson. San Francisco: Jossey-Bass, 1980. (ERIC No. EJ 235 867).

Darkenwald, G. "Some Effects of the 'Obvious Variable': Teacher's Race and Holding Power with Black Adult Students." *Sociology of Education* 48 (Fall 1975): 420-431. (ERIC No. EJ 136 888).

Davis, G. "A Study of Classroom Factors Related to Drop Outs." *Adult Education* 17 (Fall 1966): 38-41.

Davis, J. *Great Books and Small Groups.* New York: Free Press, 1961.

Dirks, H. *Dropouts in the Evening Adult School.* Ed.D. dissertation, University of Southern California, 1955.

Hyman, H.; Wright, C.; and Reed, J. *The Enduring Effects of Education.* Chicago: University of Chicago Press, 1975.

Irish, G. H. *Persistence and Dropout in Adult Education: Their Relation to Differential Reinforcement of Attendance.* Ph.D. dissertation, Columbia University, 1978.

Kennedy, D. and Powell, R. "Student Progress and Withdrawal in the Open University." *Teaching at a Distance* 7 (November 1976): 39-62. (ERIC No. EJ 153 824).

Killian, S. W. *A Study of the Persistence of Adult Students in the Fundamental Learning Laboratories of the North Carolina Community College System.* Ed.D. dissertation, North Carolina State University, 1969.

Knox, A. and Videbeck, R. "Adult Education and the Adult Life Cycle." *Adult Education* 13 (Winter 1963): 102-121.

Lam, Y. and Wong, A. "Attendance Regularity of Adult Learners: An Examination of Content and Structural Factors." *Adult Education* 24 (Winter 1974): 130-142. (ERIC No. EJ 092 333).

Lewis, M., et al. *Recruiting, Placing, and Retraining the Hard to Employ: A Study of Factors Influencing the Retention of Participants in a Concentrated Employment Program and Their Subsequent Employment.* University Park, PA: Pennsylvania State University, Institute for Research on Human Resources, 1971. (ERIC Document Reproduction Service No. ED 060 219).

Londoner, C. "Perseverance Versus Nonperseverance Patterns Among Adult High School Students." *Adult Education* 22 (Spring 1972): 179-195. (ERIC No. EJ 059 540).

Mezirow, J.; Darkenwald, G.; and Knox, A. *Last Gamble on Education.* Washington, DC: Adult Education Association of the U.S.A., 1975. (ERIC Document Reproduction Service No. ED 112 119).

Moss, D. and Richardson, R. *A Study of Students Who Discontinued Attendance in the E.S.E.A. III Adult Basic Education Program.* New York: New York City Board of Education, 1967. (ERIC Document Reproduction Service No. ED 019 576).

Preston, J. *The Study of Continuing and Non-Continuing Adult Students.* Ed.D. dissertation, University of California at Berkeley, 1958.

Rubenson, K. and Hoghielm, R. *The Teaching Process and Study Dropouts in Adult Education.* Stockholm: Stockholm Institute of Education, 1978.

Scharles, H. *The Relationship of Selected Personality Needs to Participation, Dropout, and Achievement Among Adult Learners.* Ph.D. dissertation, Florida State University, 1966.

Smith, R. "Student Awareness of Attendance Problems—A Survey of Drop-Outs." *Adult Education* (London) 52 (July 1979): 107-110. (ERIC No. EJ 219 271).

Tinto, V. "Dropout from Higher Education: A Theoretical Synthesis of Recent Research." *Review of Educational Research* 45 (Winter 1975): 89-124. (ERIC No. EJ 120 200).

Verner, C. and Davis, G. "Completion and Dropouts: A Review of Research." *Adult Education* 14 (Spring 1964): 157-176.

Wilson, R. *The Relationship of Responses on a Selected Personality Instrument to the Persistence Behaviors of Adult High School Completion Students.* Ph.D. dissertation, University of Iowa, 1973.

Wisconsin State Board of Vocational, Technical, and Adult Education. *Survey of Adult Education Participants: Vocational, Technical, and Adult Education Students.* Madison, WI: 1969. (ERIC Document Reprodction Service No. ED 037 546).

Zahn, J. "Dropout and Academic Ability in University Extension Courses." *Adult Education* 15 (Fall 1964): 35-46.